

### **REMARKS**

Claims 1-30 are pending in the present application. Claims 7-9 and 23-25 have been canceled. Claims 1 and 17 have been amended. Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the office action of February 23, 2007, all pending claims were rejected under 35 U.S.C. § 103(a) over a number of references. The specific rejections were as follows:

(1) Claims 1, 7-9, 16, 17, and 22-25 were rejected as unpatentable over Choy, et al. (EP 1 329 487) in view of Kowalski (U.S. Patent 6,536,893).

(2) Claims 2, 10-13, and 18 were rejected as unpatentable over Choy in view of Kowalski as applied to claims 1 and 17, further in view of Kitamura et al. (U.S. Patent 6,492,222).

(3) Claims 3, 19, and 26 were rejected as unpatentable over Choy in view of Kowalski and Kitamura as applied to claims 2 and 18, and further in view of Iwasaki et al. (U.S. Patent 6,800,588).

(4) Claims 4, 5, 20, and 21 were rejected as unpatentable over Choy in view of Kowalski, as applied to claims 1 and 17 and further in view of the disclosure of Ishikawa et al (U.S. Publication 2002/0175983).

(5) Claims 6, 14, 15, 27, and 28 were rejected as unpatentable over Choy in view of Kowalski and Ishikawa as applied to claims 4, 5, 20, and 21, and further in view of the disclosure of Tamagawa et al. (U.S. Publication 2003/0198885).

(6) Claim 29 was rejected as being unpatentable over Choy in view of Kowalski as applied to claim 17, and further in view of Tamagawa.

(7) Claim 30 was rejected as unpatentable over Choy in view of Kowalski as applied to claims 1 and 17 and further in view of the disclosure of Deguchi et al. (JP Application 63178798).

It is respectfully submitted that the presently pending claims be examined and allowed.

Rejections Under 35 U.S.C. § 103

The Examiner has primarily rejected claims 1-30 as being obvious in view of two references, Choy et al. (EP 1 329 487) in view of Kowalski (U.S. 6,536,893), and further in view of a number other references as discussed further below. The Applicant respectfully submits that these claims are patentable over the cited references in view of the amendments to independent claims 1 and 17 for the reasons set forth below, and that the rejection should be withdrawn.

Before discussing the obviousness rejections herein, it is thought proper to briefly state what is required to sustain such a rejection. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of *prima facie* obviousness by showing the prior art reference, or references combined, teach or suggest all the claim limitations in the instant application. Further, the Examiner has to establish some motivation or suggestion to combine and/or modify the references, where the motivation must arise from the references themselves, or the knowledge generally available to one of ordinary skill in the art. The Applicant respectfully asserts the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in any of the rejections. The Applicant submits that, in general, the cited references fail to teach or suggest each and every element of the present invention and fail to provide motivation for the various combinations of references cited.

The present invention is drawn to the use of post-calendering of images printed with ink-jet ink on offset media. The invention provides a system comprising ink-jet ink and offset media, as well as a calendering device configured to apply pressure and heat to the media after printing. The invention also provides a method comprising ink-jetting an ink-jet ink onto offset media and applying pressure and heat to the printed image such that a physical property of said image is altered by the pressure.

1. The Examiner has rejected claims 1, 7-9, 16, 17, and 22-25 as unpatentable over Choy in view of Kowalski. The Applicant respectfully submits that (a) combining these references does not yield each and every element of the present invention as claimed in claims 1 and 17 as presently amended; and (c) when the present invention is

viewed as a whole, the further limitations in claims 7-9, 16, and 22-25 are not obvious in view of these references.

Choy and Kowalski, both singly and in combination, fail to teach all of the elements of the present invention, i.e. the printing of aqueous ink-jet inks on offset media where pressure in the range of about 500 psi to about 3000 psi and temperatures in the range of 20 degrees Celsius to about 90 degrees Celsius are applied to the printed image via a calendering device.

As mentioned by the Examiner in the office action dated February 23, 2007, Choy discloses ink colorants, both dyes and pigments printed on offset media. Choy does not disclose the use of a calendering device to apply pressure or heat. Kowalski discloses an aqueous based ink-jet ink containing a type of dye colorant which is printed on a non offset media in the presence pressure and heat for the express purpose of causing the dispersant and dye to disintegrate and diffuse into the printed medium. This is primarily accomplished by the use of high heat, and just a small amount of pressure, in the order of 3-40 psi, which enhances this process.

Some of the elements of Applicant's claimed invention is loosely found in the two cited references in combination. It is noted that neither reference provides the express ranges of pressure and heat. The Examiner argues that these references are combinable, a fact that the Applicant continues to dispute. As mentioned in Applicant's previous response dated December 4, 2006, these references have very different components used for very different purposes. Choy teaches that printing on offset media with excellent quality and bleed control may be accomplished with inks comprising water-soluble colorants and at least one aprotic polar solvent. One having skill in the art would not be motivated modify the printing system of Choy by employing methods required for impressing disperse dyes such as those disclosed in Kowalski. In fact, applying the high temperatures recited in Kowalski (a) when used with the ink of Choy, would cause the printed image to be transferred to the calendering device and could cause the coating of the offset media to swell and blister. This is one of the problems that the Applicant attempts to overcome by teaching the specific ranges for both heat and pressure. As thoroughly discussed in the specification, too much heat can cause the image to transfer to the calendering device. And too little pressure can be ineffective for providing gloss and smudge resistance. Combining the teachings of Choy and Kowalski would not lead

one of skill in the art to the Applicant's claimed invention because neither reference solves these two specific problems. On the contrary, Kowalski teaches the very limitations the Applicant is trying to avoid. The Applicant submits that one having skill in the art would find no reasonable expectation that such a combination would be successful, because of the offset media blistering issue as described above, among other reasons.

Additionally, even if the two references are combinable, neither teaches the Applicant's stated ranges for heat and for pressure. The Examiner argues that "it would be well within the means of one of ordinary skill in the art to test different pressures and temperatures as mentioned in Kowalski in order to find the pressure/temperature with the best results." However, this is contrary to the guidance provided in the MPEP. MPEP 2144.05 teaches that a *prima facie* case of obviousness can be rebutted by "showing that the art, in any material respect, teaches away from the claimed invention." This includes ranges, even ranges that specifically fall within a prior art range. Applicant submits that the prior art reference teaches away from Applicant's claimed ranges. As noted earlier, Kowalski employs an ink composition that comprises a certain type of dye, a sublimation dye. It is known in the art, and specifically taught by Kowalski, that high temperatures are required to induce disperse dyes to diffuse into the substrate, the very purpose and objective of Kowalski's invention. This sublimation dye is of interest to Kowalski because it disintegrates and diffuses into the media at temperatures as low as about 200 degrees Celsius (column 2, lines 42-43). About 200 degrees Celsius is the low end of Kowalski's range. Any lower temperature would not fulfill the object of the invention. Kowalski's lower end (about 200 degrees Celsius) is more than double Applicant's upper ended range (90 degrees Celsius). Therefore, Kowalski teaches away from Applicant's claimed range for temperature, and looking at these teachings in reverse, the temperature range of the claimed invention would not work for the purpose described in Kowalski.

2. The Examiner has also rejected claims 2, 10-13, and 18 as unpatentable over Choy in view of Kowalski as applied to claims 1 and 17, further in view of U.S. Patent 6,492,222 to Kitamura et al. The Applicant submits that, for the reasons discussed above, Choy and Kowalski neither disclose nor suggest each and every element of the invention claimed in claims 1 and 17. Therefore the Kitamura disclosure can not render obvious the

further limitations recited in claims 2, 10-13, and 18 of the present invention. These limitations must be considered as a whole with the elements of the independent claims. This being stated, such an inquiry is not thought necessary in view of the responsive discussion related to claims 1 and 17. The Applicant therefore requests that these rejections be withdrawn.

3. The Examiner has also rejected claims 3, 19, and 26 as unpatentable over Choy in view of Kowalski and Kitamura as applied to claims 2 and 18, and further in view of U.S. Patent 6,800,588 to Iwasaki et al. The Applicant submits that, for the reasons discussed above, Choy and Kowalski neither disclose nor suggest each and every element of the invention provided in claims 1 and 17, upon which claims 2 and 18 depend. Claim 3 adds further limitation to claim 2, as do claims 19 and 26 to claim 18. Therefore, as with claims 2 and 18, claims 3, 19, and 26 must be considered as a whole with the elements of independent claims 1 and 17. Having stated this, an inquiry into the obviousness of claims 3, 19, and 26 is not thought necessary in view of the responsive discussion related to claims 1 and 17. The Applicant therefore requests that these rejections be withdrawn.

4. The Examiner has also rejected claims 4, 5, 20, and 21 as unpatentable over Choy in view of Kowalski as applied to claims 1 and 17 and further in view of the disclosure of Ishikawa et al (U.S. Publication 2002/0175983). The Applicant submits that, for the reasons discussed above, Choy and Kowalski neither disclose nor suggest each and every element of the invention claimed in claims 1 and 17. In the absence of a teaching or suggestion in Choy and Kowalski of the calendaring process of the present invention, it is not necessary to inquire into the obviousness of the further limitations recited by claims 4, 5, 20, and 21. The Applicant therefore requests that these rejections be withdrawn.

5. The Examiner has rejected claims 6, 14, 15, 27, and 28 as unpatentable over Choy in view of Kowalski and Ishikawa as applied to claims 4, 5, 20, and 21 and further in view of the disclosure of Tamagawa et al. (U.S. Publication 2003/0198885). The Applicant submits that, for the reasons stated above, Choy and Kowalski neither disclose

nor suggest each and every element of the invention provided in claims 1 and 17, upon which claims 4, 5, 20, and 21 depend. As with these claims, the limitations in claims 6, 14, 15, 27, and 28 must be considered as a whole with the elements of independent claims 1 and 17. Having stated this, this inquiry is not thought necessary in view of the responsive discussion related to claims 1 and 17. The Applicant therefore requests that these rejections be withdrawn.

6. The Examiner has also rejected claim 29 as being unpatentable over Choy in view of Kowalski as applied to claim 17, and further in view of Tamagawa. For the reasons stated above, Choy and Kowalski neither disclose nor suggest each and every element recited in claim 17. The limitation in claim 29, as it depends from claim 17, must be considered as a whole with the elements of claim 17. Therefore an inquiry into the nonobviousness of claim 29 is not thought necessary in view of the responsive discussion related to claim 17.

7. The Examiner has also rejected claim 30 as unpatentable over Choy in view of Kowalski as applied to claims 1 and 17 and further in view of the disclosure of Deguchi et al. (JP Application 63178798). The limitations in this claim must be considered as a whole with the elements of claims 1 and 17. The Applicant submits that, for the reasons discussed above, Choy and Kowalski neither disclose nor suggest each and every element of the invention claimed in claims 1 and 17. Therefore, combining the Deguchi disclosure with Choy and Kowalski, if this were possible, could not render obvious the further limitation recited in claim 29.

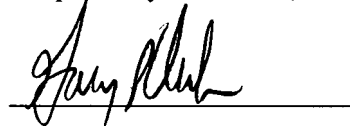
**CONCLUSION**

In view of the foregoing, Applicants believe that all pending claims present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains, and such impediment could be resolved during a telephone interview, the Examiner is invited to telephone the assignee's counsel, W. Bradley Haymond at (541) 715-0159, so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025.

Dated this 8<sup>th</sup> day of May, 2007.

Respectfully submitted,



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